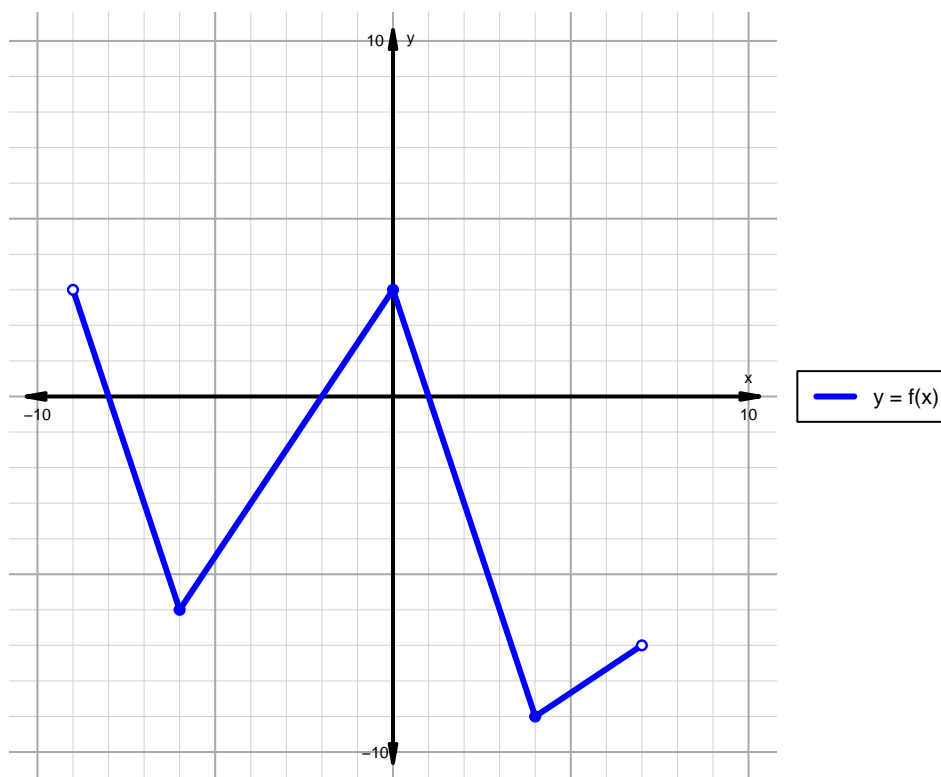


Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Intervals, Transformations, and Slope Solution (version 72)**

1. The function  $f$  is graphed below.

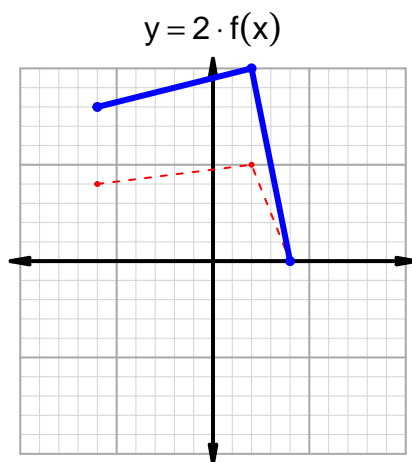
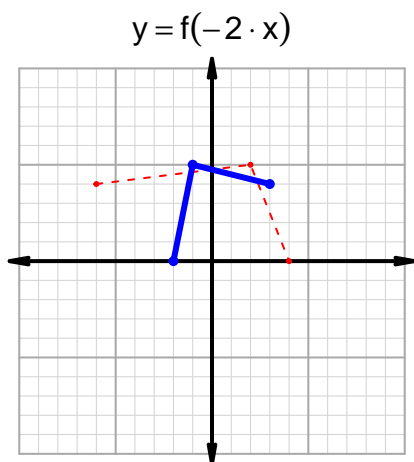
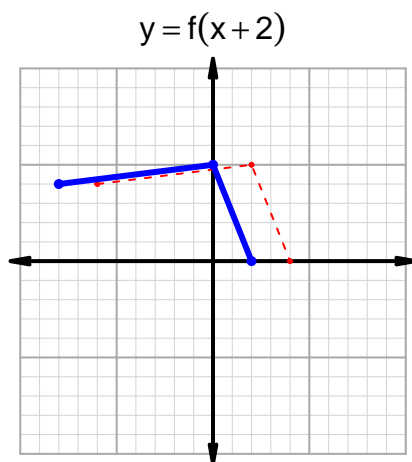
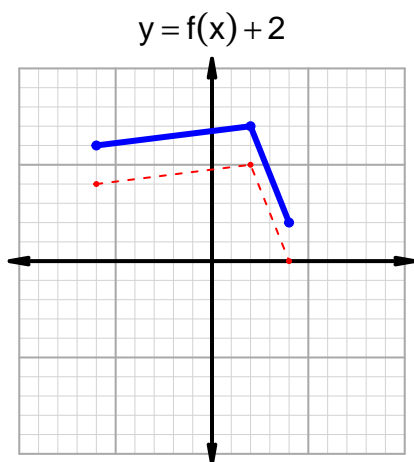


Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-9, -8) \cup (-2, 1)$
Negative	$(-8, -2) \cup (1, 7)$
Increasing	$(-6, 0) \cup (4, 7)$
Decreasing	$(-9, -6) \cup (0, 4)$
Domain	$(-9, 7)$
Range	$(-9, 3)$

## Intervals, Transformations, and Slope Solution (version 72)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 34$  and  $x_2 = 79$ . Express your answer as a reduced fraction.

$x$	$g(x)$
18	79
34	18
45	34
79	45

$$\frac{g(79) - g(34)}{79 - 34} = \frac{45 - 18}{79 - 34} = \frac{27}{45}$$

The greatest common factor of 27 and 45 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{5}$$